

SEQUENCE LISTING

<110> CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

<120> METHOD OF DIAGNOSIS OF OBESITY

<130> Q88618

<140> US 10/538,922

<141> 2005-06-13

<150> PCT/IB03/05282

<151> 2003-10-31

<150> EP 02 293 085

<151> 2002-12-13

<160> 15

<170> PatentIn Ver. 2.1

<210> 1

<211> 1758

<212> DNA

<213> Homo sapiens

<220>

<223> gad2 gene

<400> 1

```

atggcatctc cgggctctg ctttttgggtct ttccgggtcgg aagatggctc tggggattcc 60
gagaatcccc gcacagcgcg agcctggtgc caagtggctc agaagttcac gggcggcatc 120
ggaaacaaac tgtgcgccct gctctacgga gacgccgaga agccggcgga gagcggcggg 180
agccaacccc cgcgggccgc cgcccgggaag gccgcctgcy cctgcgacca gaagccctgc 240
agctgctcca aagtggatgt caactacgcg tttctccatg caacagacct gctgccggcg 300
tgtgatggag aaaggcccac tttggcgttt ctgcaagatg ttatgaacat ttactttcag 360
tatgtggtga aaagtttcga tagatcaacc aaagtgattg atttccatta tcctaagtga 420
cttctccaag aatataattg ggaattggca gaccaaccac aaaatttggg ggaaattttg 480
atgcattgcc aaacaactct aaaatatgca attaaaacag ggcattcctag atacttcaat 540
caactttcta ctggttttga tatggttggg ttagcagcag actggctgac atcaacagca 600
aatactaaca tgttcaccta tgaaattgct ccagtatttg tgcttttggg atatgtcaca 660
ctaaagaaaa tgagagaaat cattggctgg ccagggggct ctggcgatgg gatattttct 720
cccgggtggc ccataatctaa catgtatgcc atgatgatcg caccgtttta gatgttccca 780
gaagtcaagg agaaaggaat ggctgctctt cccaggctca ttgccttcac gtctgaacat 840
agtcattttt ctctcaagaa gggagctgca gccttaggga ttggaacaga cagcgtgatt 900
ctgattaaat gtgatgagag agggaaaaatg attccatctg atcttgaaa aaggattctt 960
gaagccaaac agaaagggtt tgttcctttc ctctgtgagtg ccacagctgg aaccaccgtg 1020
tacggagcat ttgacccctt cttagctgtc gctgacattt gcaaaaagta taagatctgg 1080
atgcattgtg atgcagcttg ggggtggggga ttactgatgt cccgaaaaca caagtggaaa 1140
ctgagtggcg tggagagggc caactctgtg acgtggaatc cacacaagat gatgggagtc 1200
cctttgcagt gctctgctct cctggttaga gaagagggat tgatgcagaa ttgcaaccaa 1260
atgcattgct cctacctctt tcagcaagat aaacattatg acctgtccta tgacactgga 1320
gacaaggcct tacagtgcgg acgccacgtt gatgttttta aactatggct gatgtggagg 1380
gcaaagggga ctaccgggtt tgaagcgcg gttgataaat gtttggagtt ggcagagtat 1440
ttatacaaca tcataaaaaa ccgagaagga tatgagatgg tgtttgatgg gaagcctcag 1500
cacacaaatg tctgcttctg gtacattcct ccaagcttgc gtactctgga agacaatgaa 1560

```

gagagaatga	gtcgcctctc	gaagggtggct	ccagtgatta	aagccagaat	gatggagtat	1620
ggaaccacaa	tggtcagcta	ccaacccttg	ggagacaagg	tcaatttctt	ccgcatggtc	1680
atctcaaacc	cagcggcaac	tcaccaagac	attgacttcc	tgattgaaga	aatagaacgc	1740
cttggaacaag	atttataa					1758

<210> 2
 <211> 2382
 <212> DNA
 <213> Homo sapiens

<220>
 <223> 5' flanking region of gad2 gene nucleotides

<220>
 <223> R = G or A

<220>
 <223> Y = T or C

<220>
 <223> M = A or C

<220> .
 <223> W = A or T

<220>
 <223> S = G or C

<400> 2

gaaaaaaaaa	tcagttaaat	tcagggtgttt	taatccgttt	cttcttttggg	ggtttttgtgt	60
gatttaaacy	cttgctttta	agaaccctta	tgttttcaac	cactcatcca	tagtagaaaa	120
gttctgcaac	cctagactgc	tggcttgaag	gaaaaccctt	gcaggatttg	atatggattt	180
caacaaagaa	ccagcctctg	cgaggctgga	gagagctgcy	gagctgccat	gcctgaagtg	240
cagatggctg	aaccacaagt	ctttagggtt	ccggagtgtg	tattgtgggtg	acctagagtg	300
tcagagccag	gagagcaaga	aagaggagcc	aaactgagcc	ctgagttttc	gaccacccgg	360
gctcccacag	cctggwacag	acttcaccta	gcacgctcag	tgccagcctt	cggcaggacg	420
ctatcaacgc	ccgactggwt	tcytgctctc	atcctggcgc	ctgggcccag	ttgccatagt	480
gtggatccca	tgactcctca	gggaaccctt	ggactcaggc	acgcgagaag	aagacagcgc	540
tttgtggaga	gaattgacca	gggacagtta	tgctcgagca	cacaggactt	gggcctgtat	600
gcgctccagca	tgggccccag	gatgtccctt	ctaagcgagg	gtcgaggggt	gctcgcccag	660
acgggatccc	cgggtctctg	ctttgttagc	agctttgggtg	gctggttcag	gaggtcagag	720
aaataaaacy	acttgtgaac	acaatggaaa	tgacaggcgc	tctggccagg	cgcggggaar	780
gcagccgcct	cgggaagccg	acctcagccc	tttctctctt	ctccctccct	ccgtctcccc	840
cagagccccg	gagctccgag	gtgcacttga	agttcatctc	cactgccagg	agaacgcagc	900
gcaaactgtc	aaagggctcc	caatccttag	ggcgtcctcc	ctgtctgcaa	tagctttttg	960
tagaaaggaa	atcatcagaa	mgattctgac	tttctcctcc	tttctttatt	agaaaaagag	1020
aaaccgcctc	ctaatacgcc	tcagagagaa	ccaatctcgc	gcttccgggt	caccgcgtac	1080
cgcaagattt	ctctgggggc	gagggggggc	attggtttga	agccccttaa	aacgagggcc	1140
ctgcaggcga	tgccttcttt	cctactcgga	tttgtaaagc	cgagattgct	tagttggaaa	1200
ccctgttctc	ccctcccagg	cgcacacaga	tcccccttac	acgcaagcag	cgggcgcttc	1260
cacgcctccg	cgggccaagg	tcaccaaattg	ccctgattcc	atccccacc	cgccatcaat	1320
cctgccgact	ctggccgctc	tgcttcattc	tcttccaaga	agtttccatt	cgttttattt	1380
ttttttcccc	agcccagagt	cctcagtaga	ctccagcgtg	gattttaatt	gcctcaatca	1440
gcagtcattc	tccccagccg	tcactcagag	cctggacggt	gggtcccgcg	atctagccct	1500
tggctacgca	ggaacggtgc	gccccgggt	acggcgcggt	tcagcaggca	ggcgtcaggt	1560

```

tctaccaagg cgctgaaatg agcccatcag cgggtaggag cccttccccc gccgtcccct 1620
ccccaggctc gtgaacggcg cctgatgccc gcccggggcg cgagctctcg aggtcgcagt 1680
gacctcagca cctgcttggg ggaaaacggc gcgggaaccc cgcttccttc ccctcagctg 1740
gagccagacc tcaaacaaaa cccaatcga tgcacacaga aaactcctct gggccacgct 1800
tccgcctcgc ccgaggtctc ccagctctgc ccctcgctga cgctggcgcg cagcsgctgt 1860
ggcagcaccg gggacagcgg ccgcccgcac ttcccgcctc tggctcgccc gaggacgcgc 1920
tggcacgcct cccacccccct cactctgact ccagctggcg tgcattggtct gcctcgcata 1980
ctcacgactc agctccctcc ctctctcgtg tttttttcct ccgccgcccc ctcattcattc 2040
cccactgggc tccctttccc tcaaatgctc tgggggtctc cgcgctttcc tgagtccggg 2100
ctccgaggac ccttaggtag tcccgggtctc ttttaargct ccccggcttc caaagggttg 2160
ccacgtccct aaaccctgtc tccagctcgc atacacacac gcacagacac gcacgttttc 2220
tgttcctgcg tgacaccgcg cctcgccgct cggccccgcc ggtccccgcg cgggtgccctc 2280
ctcccgccac acgggcacgc acgcgcgcgc agggccaagc ccgaggcagc tcgcccgcag 2340
ctcgactcgc caggcgacct gctccagtct ccaaagccga tg 2382

```

<210> 3

<211> 519

<212> PRT

<213> Homo sapiens

<220>

<223> DNA-binding protein Ikaros (Lymphoid transcription factor
LyF-1)

<400> 3

```

Met Asp Ala Asp Glu Gly Gln Asp Met Ser Gln Val Ser Gly Lys Glu
  1             5             10             15

```

```

Ser Pro Pro Val Ser Asp Thr Pro Asp Glu Gly Asp Glu Pro Met Pro
      20             25             30

```

```

Ile Pro Glu Asp Leu Ser Thr Thr Ser Gly Gly Gln Gln Ser Ser Lys
  35             40             45

```

```

Ser Asp Arg Val Val Ala Ser Asn Val Lys Val Glu Thr Gln Ser Asp
  50             55             60

```

```

Glu Glu Asn Gly Arg Ala Cys Glu Met Asn Gly Glu Glu Cys Ala Glu
  65             70             75             80

```

```

Asp Leu Arg Met Leu Asp Ala Ser Gly Glu Lys Met Asn Gly Ser His
      85             90             95

```

```

Arg Asp Gln Gly Ser Ser Ala Leu Ser Gly Val Gly Gly Ile Arg Leu
  100            105            110

```

```

Pro Asn Gly Lys Leu Lys Cys Asp Ile Cys Gly Ile Ile Cys Ile Gly
  115            120            125

```

```

Pro Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro
  130            135            140

```

```

Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
  145            150            155            160

```

Leu Arg His Ile Lys Leu His Ser Gly Glu Lys Pro Phe Lys Cys His
 165 170 175
 Leu Cys Asn Tyr Ala Cys Arg Arg Arg Asp Ala Leu Thr Gly His Leu
 180 185 190
 Arg Thr His Ser Val Gly Lys Pro His Lys Cys Gly Tyr Cys Gly Arg
 195 200 205
 Ser Tyr Lys Gln Arg Ser Ser Leu Glu Glu His Lys Glu Arg Cys His
 210 215 220
 Asn Tyr Leu Glu Ser Met Gly Leu Pro Gly Thr Leu Tyr Pro Val Ile
 225 230 235 240
 Lys Glu Glu Thr Asn His Ser Glu Met Ala Glu Asp Leu Cys Lys Ile
 245 250 255
 Gly Ser Glu Arg Ser Leu Val Leu Asp Arg Leu Ala Ser Asn Val Ala
 260 265 270
 Lys Arg Lys Ser Ser Met Pro Gln Lys Phe Leu Gly Asp Lys Gly Leu
 275 280 285
 Ser Asp Thr Pro Tyr Asp Ser Ser Ala Ser Tyr Glu Lys Glu Asn Glu
 290 295 300
 Met Met Lys Ser His Val Met Asp Gln Ala Ile Asn Asn Ala Ile Asn
 305 310 315 320
 Tyr Leu Gly Ala Glu Ser Leu Arg Pro Leu Val Gln Thr Pro Pro Gly
 325 330 335
 Gly Ser Glu Val Val Pro Val Ile Ser Pro Met Tyr Gln Leu His Lys
 340 345 350
 Pro Leu Ala Glu Gly Thr Pro Arg Ser Asn His Ser Ala Gln Asp Ser
 355 360 365
 Ala Val Glu Asn Leu Leu Leu Leu Ser Lys Ala Lys Leu Val Pro Ser
 370 375 380
 Glu Arg Glu Ala Ser Pro Ser Asn Ser Cys Gln Asp Ser Thr Asp Thr
 385 390 395 400
 Glu Ser Asn Asn Glu Glu Gln Arg Ser Gly Leu Ile Tyr Leu Thr Asn
 405 410 415
 His Ile Ala Pro His Ala Arg Asn Gly Leu Ser Leu Lys Glu Glu His
 420 425 430
 Arg Ala Tyr Asp Leu Leu Arg Ala Ala Ser Glu Asn Ser Gln Asp Ala
 435 440 445
 Leu Arg Val Val Ser Thr Ser Gly Glu Gln Met Lys Val Tyr Lys Cys
 450 455 460

Glu His Cys Arg Val Leu Phe Leu Asp His Val Met Tyr Thr Ile His
465 470 475 480

Met Gly Cys His Gly Phe Arg Asp Pro Phe Glu Cys Asn Met Cys Gly
485 490 495

Tyr His Ser Gln Asp Arg Tyr Glu Phe Ser Ser His Ile Thr Arg Gly
500 505 510

Glu His Arg Phe His Met Ser
515

<210> 4

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 243

<400> 4

cctcaaatgc tctggggctc

20

<210> 5

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 243

<400> 5

ggtgtcacgc aggaacagaa

20

<210> 6

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 243

<400> 6

gtctctttta aagctccccg gct

23

<210> 7

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 243

<400> 7

cgggctccga ggacccttag gtagtccc

28

<210> 8

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 1.6 kb

<400> 8

ctgaggcgta ttaggag

17

<210> 9

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 1.6 kb

<400> 9

ctcctaatac gcctcag

17

<210> 10

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 1.6 kb

<400> 10

ggaaagcagc cgcctc

16

<210> 11

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Chemically synthesized primer to amplify SNP - 1.6 kb

<400> 11

tggaaatgac aggcgctctg gccaggcgcg

30

<210> 12

<211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized primer to amplify SNP - 2004

 <400> 12
 tgttttcaac cactcatcca t 21

 <210> 13
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized primer to amplify SNP - 2004

 <400> 13
 aggacagtt atgctcg 17

 <210> 14
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized primer to amplify SNP - 2004

 <400> 14
 acagcctggt acagactt 18

 <210> 15
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized primer to amplify SNP - 2004

 <400> 15
 tgagttttcg accacccggg etc 23